

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

HALE AND DORR LLP

## PCT

To: MARY ROSE SCOZZAFAVA  
CLARK @ ELBING, LLP  
176 FEDERAL STREET  
BOSTON, MASSACHUSETTS 02110-2214

OCT 16 2001

RECEIVED

OCT 09 2001

CLARK & ELBING

INTELLECTUAL PROPERTY  
DEPARTMENT

### NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing  
(day/month/year)

05 OCT 2001

Applicant's or agent's file reference

00246/517W01

#### IMPORTANT NOTIFICATION

International application No.

PCT/US00/11415

International filing date (day/month/year)

28 APRIL 2000

Priority Date (day/month/year)

29 APRIL 1999

Applicant

PRESIDENT AND FELLOWS OF HARVARD COLLEGE

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

*HALE & DORR DOCKETING*

RE: 42697.127 W01

Action Date: \_\_\_\_\_

Action to be Taken: \_\_\_\_\_

Docketed by: ay On: 10-17-01

Name and mailing address of the IPEA/US

Commissioner of Patents and Trademarks  
Box 107  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

JOSEPH D. ANTHONY

Telephone No. (703) 308-0661

DEBORAH THOMAS  
PARALEGAL SPECIALIST

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 00246/517W01	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/11415	International filing date (day/month/year) 28 APRIL 2000	Priority date (day/month/year) 29 APRIL 1999
International Patent Classification (IPC) or national classification and IPC IPC(7): H01L 21/00; B05D 3/01, 3/12; C09K 3/00 and US Cl.: 427/453, 226; 252/183.11, 183.13		
Applicant PRESIDENT AND FELLOWS OF HARVARD COLLEGE		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of _____ sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step or industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>

Date of submission of the demand  31 OCTOBER 2000	Date of completion of this report  22 AUGUST 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  JOSEPH D. ANTHONY
Facsimile No. (703) 305-8230	Telephone No. (703) 305-0661

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/11415

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

☒ the international application as originally filed☒ the description:

pages 1-19, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

☒ the claims:

pages 20-24, as originally filed  
pages NONE, as amended (together with any statement) under Article 19  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

☒ the drawings:

pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

☒ the sequence listing part of the description:

pages NONE, as originally filed  
pages NONE, filed with the demand  
pages NONE, filed with the letter of

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☒ The amendments have resulted in the cancellation of:☒ the description, pages NONE☒ the claims, Nos. NONE☒ the drawings, sheets/fig NONE5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\*Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/11415

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. statement

Novelty (N)	Claims	<u>7, 10-11, and 16-22</u>	YES
	Claims	<u>1-6, 8-9, and 12-15</u>	NO
Inventive Step (IS)	Claims	<u>16-22</u>	YES
	Claims	<u>1-15</u>	NO
Industrial Applicability (IA)	Claims	<u>1-22</u>	YES
	Claims	<u>NONE</u>	NO

## 2. citations and explanations (Rule 70.7)

Claims 1-6, 9, and 12-15 lack novelty under PCT Article 33(2) as being anticipated by Derwent Publication Ltd., Accession Number 113:78097, Taken from J. Hetrocycl. Chem (1989), 26(6), pages 1771-1780 which teach compositions that contain

Silanamine, 1-(1,1-dimethylethyl)-N-[(1,1-dimethylethyl)dimethylsilyl]-1,1-dimethyl, sodium salt.

Claims 1-6, 8, and 12-15 lack novelty under PCT Article 33(2) as being anticipated by Derwent Publication Ltd. Accession Number 107:96786, Taken from Chimia (1986), 40(6), pages 202-205 which teach compositions that contain Silanamine, 1-(1,1-dimethylethyl)-N-[(1,1-dimethylethyl)dimethylsilyl]-1,1-dimethyl, lithium salt.

Claims 7, and 10-11 lack an inventive step under PCT Article 33(3) as being obvious over Derwent Publication Ltd., Accession Number 113:78097, Taken from J. Hetrocycl. Chem (1989), 26(6), pages 1771-1780, and Derwent Publication Ltd. Accession Number 107:96786, Taken from Chimia (1986), 40(6), pages 202-205.

Both Derwent Publications have been described above. They differ from applicant's claimed invention in the following ways: 1) there is no direct teaching to making or using silanamines that correspond to applicant's structure of claim 7., 2) there is no direct disclose to the use of potassium in lieu of sodium or lithium, and 3) there is no direct disclosure to making silanamine type alkali metal salts that correspond to applicant's claimed silanamine alkali metal salts where applicant's subscript "n" is in the range of 2 to 3.

It would have been obvious to one having ordinary skill in the art to use the individual disclosures of either Derwent Publication as motivation to actually make compositions that contain silanamines that correspond to applicant's claimed silanamines. This is obvious because both Derwent Publications are deemed to broadly disclose the production and use of silanamines that encompass applicant's claimed silanamines.

Claims 1-15 meet the criteria set out in PCT Article 33(4). (Continued on Supplemental Sheet.)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/11415

**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

because the claimed compositions are deemed to be useful in a vapor deposition process to deposit a material containing an alkali metal.

Claims 16-22 meet the criteria set out in PCT Article 33(2)-(4), because the above prior art does not teach or fairly suggest applicant's claimed compositions and vapor deposition process to deposit a material containing an alkali metal.

----- NEW CITATIONS -----

NONE

## INTERNATIONAL SEARCH REPORT

 International application No.  
 PCT/US00/11415
**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : H01L 21/00; B05D 3/02, 3/12; C09K 3/00

US CL : 427/453, 455, 226; 252/183.11, 183.13

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 427/453, 455, 226, 452, 99, 124, 126.1; 252/183.11, 183.13; 260/665R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WEST USPAT, STN REGISTRY

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- A	Database Registry on STN: Derwent Publication Ltd., Accession Number 113:78097, Taken from J. Hetrocycl. Chem. (1989), 26(6), pages 1771-1780.	1-15 ---- 16-22
X --- A	Database Registry on STN, Derwent Publication Ltd., Accession Number 107:96786, Taken from Chimia (1986), 40(6), pages 202-205.	1-15 ---- 16-22
A	US 5,376,405 A (DOAN et al.) 27 December 1994, see the abstract, examples, and claims.	1-22
A	US 5,412,129 A (DICAROLIS) 02 May 1995, see the abstract, examples, and claims.	1-22

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 19 JUNE 2000	Date of mailing of the international search report 09 AUG 2000
---	---

 Name and mailing address of the ISA/US  
 Commissioner of Patents and Trademarks  
 Box PCT  
 Washington, D.C. 20231  
 Facsimile No. (703) 305-3230

Authorized officer

JOSEPH D. ANTHONY

 DEBORAH THOMAS  
 PARALEGAL SPECIALIST

Telephone No. (703) 308-0661

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/11415

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,581,396 A (KUBOTA et al.) 03 December 1996, see the abstract, examples, and claims.	1-22
A	US 5,726,294 A (Rees, Jr.) 10 March 1998, see the abstract, examples, and claims.	1-22
A,P	US 5,980,983 A (GORDON) 09 November 1999, see the abstract, examples, and claims.	1-22